HUAQIU

WOQ PORTABLE FIRE PUMP SET

USER MANUAL

BJ20B、BJ22B

BY WOQ >>>

USER MANUAL

INTRODUCTION：

Thanks for purchasing a WOQ fire pump. This manual will guide you to operate the pumps in good running、 high performance and safe. We suggest each customer should read the Operating Instructions carefully before operation. Only after comprehensive understanding of the pump, it will be in good running.

***The pump is used for fire fighting, drainage, drought resistance etc. It is essential that the pumps are**

operated ONLY by TRAINED PERSONNEL

*** The performance and appearance of the pumps may be changed at any time, without Notice.**

*** Requirements for maintenance and periodical inspection, should be carried out by WOQ authorized**

dealers

***Any further questions, please contact with WOQ customer service: 86-575-87068368**

NOTICE:

*** User Manual: read the manual carefully and set it free for everyone to handle. Please attach this manual if pump is resent.**

*** Regular maintenance and periodical inspection ensure the machine in good situation for emergency.**

***Warning: Read the manual before operation. Understand the operation steps correctly, including "dangers" "warning" "caution" "attention" which are very important.**

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CHARACTERISTICS AND USE

WOQ portable fire pump sets are equipped with high performance 4-stroke air-cooled engine and centrifugal pump, with light weight, compact structure, easy start, quick water, low fuel consumption, high pressure, large flow, high lift, work stable and reliable characteristics. It is flexible on narrow road, lane and places where fire truck could not reach. It is suitable for city fire brigade, professional fire brigade, forest fire brigade, volunteer fire brigade, inflammable and explosive enterprises, cultural properties, large warehouses, oil depots, stations, ports, ships, temples, goods yards, forest etc. It is also the ideal equipment for flood drainage, drought remote water supply, site washing, etc.

SPECIFICATIONS

MODEL			BJ20B	BJ22B
pump	Type of centrifugal		Single stage	Single stage
	Vacuum		Carbon fiber oil Max suction:9m	Carbon fiber oil Max suction:9m
	Priming time		3m/7s 7m/19s	3m/7s 7m/19s
	Inlet dia		Φ80mm	Φ80mm
	Outlet dia		Φ65mm	Φ65mm
	Suction:3m flow/pressure		420L/min/0.5Mpa	360L/min/0.6Mpa
			900L/min/0.4Mpa	900L/min/0.5Mpa
			1300L/min/0.2Mpa	1500L/min/0.3Mpa
	Normal nozzle	size	Φ19mm	Φ19mm
			Φ22mm	Φ22mm
Engine	Type		Horizontal, single –cylinder, electric start, air-cooled, 4-stroke-Diesel	Horizontal, single –cylinder, electric start, air-cooled, 4-stroke-diesel
	Output power		Max:22HP	Max:25HP
	RPM		3300rpm/min	3300rpm/min
	Fuel Tank		6.5L (5L/H)	6.5L (5.5L/H)
	Lubrication		Oil lubrication	Oil lubrication
	Ignition		Fuel straight injection	Fuel straight injection
	Starting system		Starter motor	Starter motor
Others	Volume(mm)		650×610×650	650×610×650
	Weight		About 105 kg	About 110 kg
	Storage battery		12V36AH	12V36AH

MAIN PARTS

01： Engine

02： Starting controller

03: governor

04: Air filter device

05： Fuel tank cap

06: Fuel tank

07： Outlet valve handle

08： Outlet valve

09: Operating indicator

10： Pressure indicator

11: Vacuum gauge

12: Pressure gauge

13: Storage battery

14: Hand lifting frame

15: Suction handle

16: Exhaust valve

17: Vacuum pump

18： Oil cup

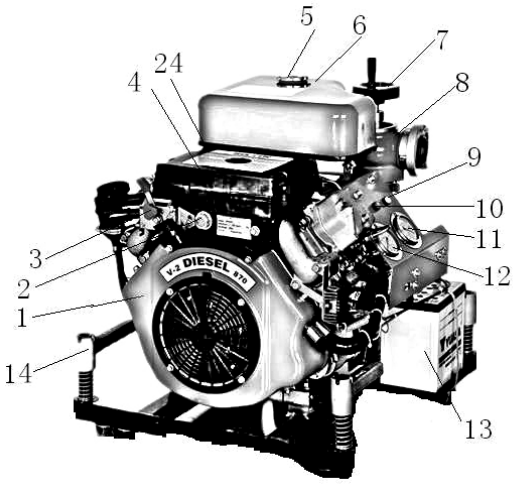
19: Muffler

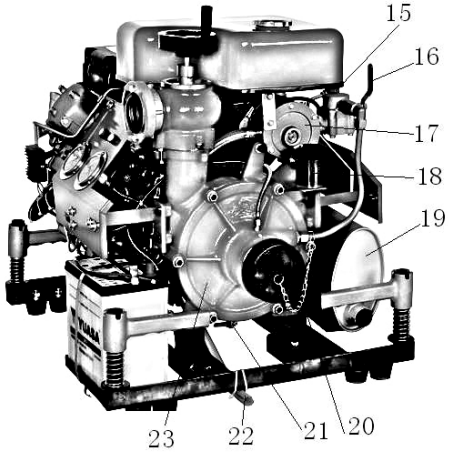
20: Inlet wrench

21: Pump drain valve

22: Drainage pipe

23: Centrifugal pump





PREPARATIONS FOR OPERATION

1. Check diesel and oil, position as shown in Picture 2 (0# or above unleaded diesel) and 19 (4-stroke oil CF20W50). Diesel is extremely flammable and MUST be HANDLED WITH CARE. Flammable materials or structures, smoking, heating, spark and static electricity will cause explosion

DANGERS:

Flame, spark, static electricity will cause explosion and fire, when smell the smell of petrol.
No smoking
Stop the machine before refueling
Be careful NOT TO SPILL fuel; DO NOT OVERFILL the fuel tank

CAUTION:

Diesel smoke is toxic. Avoid breathing the gas
DO NOT REFUEL until the engine is cold
Tighten the fuel tank cap. Open only when refueling.
Clean the spilled oil BEFORE starting the engine
Note: Use 0# or below diesel will shorten the engine life, cause starting problems or other problems
2. Check Position 18 (Vacuum pump oil cup) oil is full or not.
3. Check Position 21(pump drain valve) open or closed, makes sure it is closed before starting
4. Check Position 07(pump outlet valve) open or closed, make sure it is closed before starting (suction depth ≥3m)
5. Check Position 13(storage battery), connect with engine or not, make sure it is connected
6. Check Position 24(Oil tank switch) open or not, the fuel directly enter into the combustion chamber
7. Check Position 02 (starting controller), choke is open or not, turn the ignition key to “on”
Notes:
When the ignition is “on”, Position 21(Operating indicator) should be shiny. (If it is not bright, please check the battery, the fuse in the starting control box, or contact WOQ customer service.)
8. Check Position 16(inlet wrench) tighten or not, install the inlet pipe
9. Check Position 05 (outlet valve) connected with hose/ nozzles or not

STARTING THE ENGINE

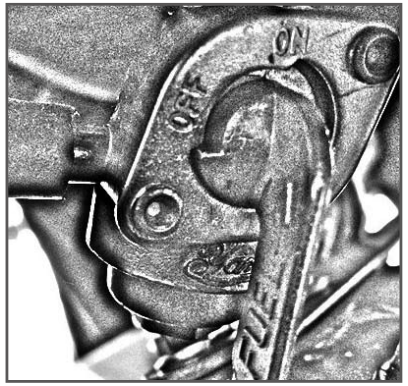
PLACE THE PUMP

1. The pump should be placed on the ground near water, easy to carry and operate
2. Connect the suction hose and fire hose safety. Put the other head of the suction hose to the water. (Suction hose must be with filters and put in baskets)
3. Water will be spray out from the hose nozzle. Recommend to use the right nozzle size

Model	Nozzle diameter（mm）	
	Max dia	Min dia
BJ20B	19mm	13mm
BJ22B	22mm	16mm

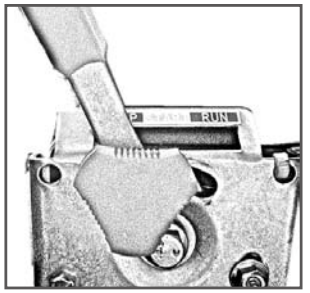
STARTING THE ENGINE

1. Pull down the handle to open the oil switch (as Pic1)

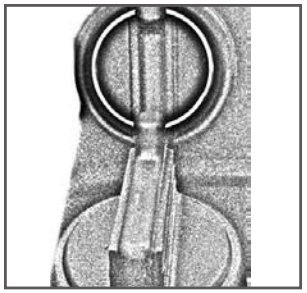


(Pic 1)

2. Turn the throttle to 1/3 of Min——Max (as Pic 2)



(Pic 2)



(Pic 3)

4. Turn the main switch to “start”, loose it once the engine start.

SUGGESTIONS:

■1.Redundant operation with the starter will run out of the battery. Max time for running the engine is 5seconds. Please restart the engine after 10s.

■2.Once the engine start, DO NOT RESTART the engine.

■3.Check the battery is connected firmly and sufficient; if the engine is not in idle running,

SUCTION AND SPAY OUT

■1. After starting the engine, pull down the vacuum pump handle. (As Pic 6)

■2. Check the water comes out from the drainage pipe or not, the pressure gauge point to the positive range.

■3. Return the vacuum pump handle to original position

NOTICE:

* No water come out after 30seconds; check the relevant items on “Fault handling table”
* Water should not be lower than 9m, otherwise the pump could not suction.
* Put the suction pipe on uneven or rough place, air will accumulate. If water do not spray out fluently after open the outlet valve. Please re-operate the vacuum pump. If suction hose accumulate air, open the outlet valve; run the vacuum pump every 3-5seconds, till the water flow fluently.
* Inspect the height of the water frequently when spraying. The hose filter should be 30cm below the water. If there is much sediment in the water, use dense mats or meshes to keep it away.

■4. Open the outlet valve. (As Pic 7)

* Notify the nozzle operator before open the outlet valve.
* The outlet could be rotated about 90 degrees, stop the engine and open the valve when rotating

NOTE: Suction hose will accumulate air if some parts is higher the outlet. Water does not flow to the outlet when the outlet valve is open; Reopen the vacuum if such thing happens.

（Pic 6）

（Pic 7）

■5. Use throttle to adjust water outflow and pressure

STOP THE MACHINE

■1. Pull the throttle to low speed position

■2. Close the outlet valve

■3. Turn on the main switch to “off”

■4. Close the oil tank switch

■5. Open the drain valve, make sure all water is out of the pump, then close it.

ATTENTIONS DURING OPERATIONS

To avoid improper operation of fire pumps, read and comply with the following attentions

Warning: DO NOT run the engine in an enclosed area as poisonous gases are given off, which can cause injury.

Warning: DO NOT touch pulley, belt or other moving parts which can lead to serious injury, when the engine is running

Caution: **DO NOT** touch the spark plug ignition wires, which are with high voltage, and can lead to serious injury.

Caution: **DO NOT** touch the exhaust system and muffler when the engine is running or stopped within 10 minutes, as they are very hot and can cause injury.

CAUTION

01. **DO NOT OPERATE** the fire pump close to flammable materials or structures (distance should be more than 3m)

02. **DO NOT OPERATE** the fire pumps on dry grass ground. The exhaust system is very hot and easy to light it. Clean it if needed.

03. Do not bend or squeeze the suction hose during working, which may cause injury).

04. **DO NOT START** the engine when the outlet valve is open

05. Engine must be in idle running when open or close the outlet valve.

06. **MUST NOTIFY** the nozzle operator if the engine speed or the position of the outlet changes, which cause injury.

07. Nozzle operator should adapt shoulder leather hose to control it, it need 2 persons to control it if too much pressure

08. Do not spray to people directly at any case.

09. Do not look into the hose when open the outlet at any case.

10. Cover head of the suction hose when the pump is in no use.
11. Do not put the hand or finger to the mouth of the nozzle
12. Be careful when moving, lifting or putting the pump, as the fire pump is heavy.
13. Comply with the operating instructions to clean the spilled fuel.
14. Battery, gasoline, oil and other harmful elements should be treated through AUTHORISED waste-disposal contractors to licensed waste disposal sites.
15. This type of fire pumps do not recommend in building projects, cleaning, irrigation etc.
16. This type of fire pump is designed for pump water use, not for flammable liquid, chemical liquid or corrosive liquid.
17. DO NOT run the engine without water for a long time(no more than.3 minutes), to avoid damaging the seals.

CAUTIONS AFTER OPERATION

1. Pump maintenance after sea water or sewage)
Clean the pump with clean fresh water after sea water or sewage
2. Check the suction performance
Make sure the water is completely discharged. Close all valves and suction hose capes. Set the throttle to "MIN" position, open the vacuum pump without water for a while. Check the vacuum gauge normal and stable to confirm the suction is ok. Stop the machine and open the discharge valve, close it after the vacuum turn to position"0"
3. Charge the battery
Charge the battery regularly; ensure enough electricity for next use.
4. Refill fuel/oil
Check fuel and oil. Refill them for use at any time.
5. Discharge the oil
Ensure all oil discharged from carburetor, before putting the pump in warehouse for a long time..
* Turn off the oil tank switch before stopping the engine, close the starting key after the engine stopped.

CAUTIONS UNDER LOW TEMPERATURE

1. Start the engine, which become warmer and in normal operating.
2. Use anti-freeze

OPERATIONS

A: Open the outlet valve, close the suction hose cap.
B: Open the pump discharge valve (As Pic 21), connect the Vinyl tube (optional) to outlet valve.
C: Put the other head of Vinyl tube to the anti-freeze (about 200ml)
D: Set the throttle to position "start", let the anti-freeze to enter pump body through vacuum pump. Let air enter the vacuum pump after 30s' running; ensure the anti-freeze reach the whole pump.
E: Stop the machine and close the oil valve.
F: Close the handle of outlet valve; stick the anti-freeze on the valve directly.
G: The battery will freeze in low-gravity and the performance will drop in low temperature. Remember to keep the battery in proper gravity and full charged.

USE ACCESSORIES

■1. Battery charger (manual type)
Connect the charger positive (+) and negative (–) cable to the battery +,- pole ("+" red stigma, "-" black stigma)
A: Check the electrolytic liquid, clean and tighten the wire.
B: Plug the charger to battery terminals
C: Power the charger to 220AC current. Input light (red) begin to charge
D: The light is off when the battery is full. Turn of the power switch "off", pull out the charge plug.
Note: It takes 12 hours to charge a 50% battery to full.

CAUTION

- Place the battery charger on non-flammable table, or fix it on the tall. Do not put on the ground
- Connect the charger positive or negative correctly, otherwise it will damage battery and charger.
- Keep the battery surface clean at any time.
- Battery life is normally 2 years. Replace the battery every 2 year and check its performance.
- Connect the battery positive (+) cable BEFORE the negative (–) and disconnect the negative BEFORE the positive.
- The electrolytic liquid is highly corrosive, which damage skin and clothes.

WARNING

- Charge the battery in good ventilation, not in bad ventilations.
- Batteries produce EXPLOSIVE GASES so keep sparks, flames and cigarettes away
- Do not charge the battery for long time, which cause explosion.

MAINTENANCE

■1.Place the fire pump on dry ground. high humidity will harm the steel parts, which is easy to get rust
■2.Keep the fire pump clean and dry.
■3.Keep the fuel and oil tanks full
■4.Keep the vacuum oil cup in proper level
■5.Run the pump at least once per month
■6.Check the battery once per month
■7.Discharge the carburetor oil completely if the pump will be in warehouse for more than one month
■8.Replace the V-type belt when it is broken or worn. Size: A-838

PERIODIC INSPECTION AND MAINTENANCE

Periodic inspection and maintenance as following

Item	Inspection time and frequency	points	measures	remarks
Fuel	After operation	Fuel in tank	Refuel	
Oil	After operation	Oil in vacuum oil tank	Refuel	
Light	After operation	Shiny	Replace	
battery	Every month	Liquid level	Fill	
Recoil rope	Every month	worn	Replace	
Fuel system	Every 50 hours or every month	Dirty filter, leakage	replace	
Pump		Running situation	Replace when necessary	
Outlet valve	Every 50-100 hours	Vacuum leak	Replace when necessary	
V belt	Every 100 hours or every year	Worn or brea	Replace	
All other accessories	Every 300 hours or every 3 years	Check thoroughly	Replace when necessary	

NOTICE

●1. Contact WOQ customer service if "0" or "*" happens
●2.Check time and frequency base on above table

FAULT HANDLING

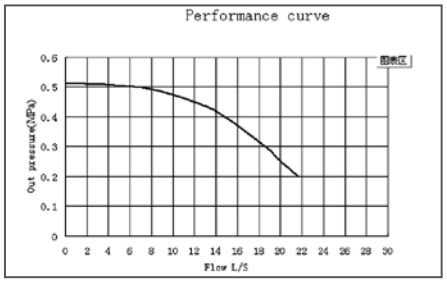
Typical faults as following

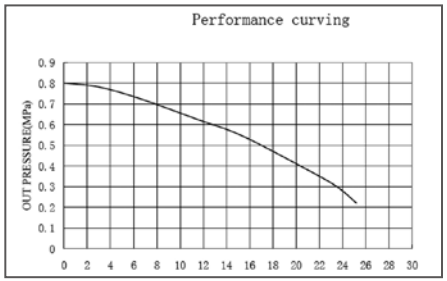
Type	position	Reason	Remedy	Remarks
Starting	Engine system	No or low electricity	Charge the battery /handstarting device	
		Electrode loose	Tighten	
		Fuse blowing	Replace	In starting box
		Wire loose	Tighten	
		The air into the compression cylinder	Clear the air	
	Fuel system	Fuel tank empty	Refill it with 93#unleaded gasoline	
		Oil switch (with filter) closed	Open	
		Leaded gasoline（overtime or dirty）	Change and clean with new gasoline	
		Blockage in fuel pipeline	Clean /replace	
		Cylinder blocked	Clean /replace	0
		Insufficient choke.	Check and correct	
	Others	Cylinder compression pressure not enough	Adjust air throttle	0
		Oil pressure sensor start	Check oil level	0
		Engine speed control handle not in right position	Check and correct	
Suction	No vacuum	End of suction hose not in water	Put into water	
		Suction-hose joints loose	tighten	
		Suction hose washer break	Replace	
		Suction hose break or damage	Replace	
		Vacuum gauge hose break	Replace	
		Discharge valve open	close	
		Vacuum pump hose loose	tighten	Beside the pump
		V-belt worn or break	Replace	0
		Vacuum pump handle could not be pulled down	Check V-belt	
		Rotor or shaft locked	repair	0
		Outlet valve could not be closed	Clean or replace	
		Seal dirty or damaged	Replace	0
		No oil in vacuum oil cup	Refill the cup	
	vacuum	Suction head too high	Lower the height	
		Filter blocked	clean	
		Vacuum from time to time	Flat the hose	
			End of the hose near the water	
Water flow	Pump	Suction height too high	Lower the height	
		Suction hose too long	shorten	
		Filter or hose blocked	Clean	
		Suction hose break	Check and repair	
		Inlet cap break	Replace	0
		Out let valve half open	Full open	
		Impeller obstruction	Clean	0
	Engine	Nozzle diameter not proper	correct	
		Throttle open not enough	Open	

TOOLS AND ACCESSORIES

Name	Size	Quantity	Remarks
User manual		1	
Engine operating instructions		1	
Warranty card		1	
Suction hose accessories	Φ80×7M	1	rubber
Suction hose washer	Φ100×Φ76	2	
Fire hose	Φ65-20	1	
Fire nozzle	QZ19	1	
Screw driver	6”(two-head)	1	
Wrench	8-10	1	
Wrench	12-14	1	
Wrench	13	1	
Battery charger	12V/6V		
V-belt	A838		

PERFORMANCE CURVING





REMOTE CONNECTION TO WATER SUPPLY SYSTEM DIAGRAM

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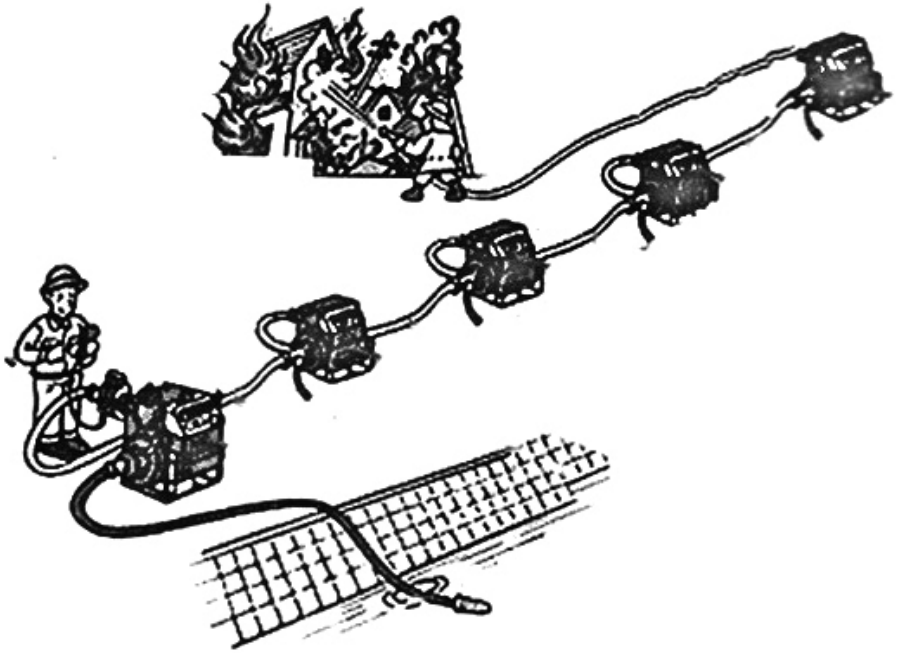

USER INSTRUCTIONS

■1. The portable fire pump is made by WOQ Company, if customer uses it according the “user manual”, the defective or damage caused by design or manufacture, the company is responsible for “three guarantees” , warranty period is one year from the shipping date.

■2. Customer should provide quality certification, original or copy invoice, and relevant information for use and damage, to contact WOQ customer service for “three-guarantees”. We will provide “three-guarantees” after investigation.

■3. Our company is responsible for “three-guarantees” for pump parts, and authorized engine dealers are responsible for engine parts.

■4. Customer should check the fire pump sets when they buy it from any company or dealers, and clear the quality responsibility. Our company does not provide “three-guarantee” services if pumps (including accessories) are opened or damaged by others.

■5.Our company will provide paid services according to following situations, which do not belong to “three-guarantees”

5.1 Damaged by incorrect maintenance or use

5.2 Opened or refitted without authorization

5.3 No quality certifications or invoice

5.4 Quality certification, invoice are not accordance with the model, item no, engine no with the product need repairing

5.5 Refit and affect the pump performance without authorization

www.zj-woq.cn

ZHEJIANG WOQ MACHINERY MANUFACTURE CO.，LTD

Add：No. 357, Zhongyang Road, Diankou, Zhuji City, Zhejiang
Tel：+86-575-87068368　+86-575-87062288
Fax：+86-0575-87061430
E-mail：hqjxzz@163.com
WEB：http://www.zj-woq.cn
http://www.zj-woq.en.alibaba.com
http://woq.manufacturer.globalsources.com